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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,798	11/19/2003	Amir Abolfathi	AT-000219US	8591

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EXAMINER	
O'CONNOR, CARY E	

ART UNIT	PAPER NUMBER
3732	

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/717,798	ABOLFATHI ET AL.	
	Examiner	Art Unit	
	Cary E. O'Connor	3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 25 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 25 and 26 recite the limitation "The method" in line 1. There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Freeman (4,375,966). Freeman shows a dental tray 4 for creating dental impressions wherein the tray may contain a radiopaque agent (column 4, lines 1-6). The recitation that the tray has an attenuation not exceeding a level 50% greater than the impression material has not been given patentable weight in the claim because the impression material is not positively claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-19, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaza (2003/0129565) in view of Freeman (4,375,966). Kaza teaches a method to create a digital model of a patient's teeth comprising taking an impression of the teeth using a dental tray, scanning the impression using a radiographic source, and generating the digital model with scanned data. Kaza does not teach using a dental tray containing a radiopaque agent. Freeman shows a dental tray 4 for creating dental impressions wherein the tray may contain a radiopaque agent (column 4, lines 1-6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a dental tray containing a radiopaque agent, as taught by Freeman, in the method of Kaza, in order to improve the results of the scan of the impression by the radiographic source. Freeman does not specifically disclose that the tray has an attenuation not exceeding a level 50% greater than the impression material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the tray of Freeman to have an attenuation not exceeding a level 50% greater than the impression material, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. As to claims 2

and 3, note paragraph 0058 of Kaza. As to claims 5-14, note paragraphs 0061 through 0066 of Kaza. As to claim 15, Kaza shows a system for creating a digital model of a patient's teeth comprising radiation source (an X-ray source) 802, a scintillator 812, a radiation detector coupled to the scintillator, a rotatable table 804 positioned between the radiation source and the scintillator, and a computer 822 coupled to the detector. The image of the impression is obtained by computer tomography (paragraph 0058). As to claim 19, note paragraph 0057 of Kaza. As to claims 4, note that the tray 4 of Freeman includes notches 4 that form detachable portions.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaza (2003/0129565) in view of Freeman (4,375,966) as applied to claims 1 and 15 above, and further in view of Coscina (3,878,610). The dental tray of Freeman does not include a first wall extending from the base. Coscina shows a dental tray 10 comprising a base 26 having a plurality of prongs, a first wall 28 extending from one side of the base, at least one tearable portion formed on one end of one prong, the detachable portion being removable to shorten the prong length (see column 7, lines 36+). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the tray of Freeman with a wall extending from the base, as taught by Coscina, in order to contain the impression material.

Claims 23, 25, 26 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman (4,375,966). Freeman shows a dental tray 4 for creating dental impressions wherein the tray may contain a radiopaque agent (column 4, lines 1-6). Freeman does not specifically disclose that the tray has an attenuation not

exceeding a level 50% greater than the impression material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the tray of Freeman to have an attenuation not exceeding a level 50% greater than the impression material, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The method of enhancing the quality of scanned data from a dental impression is inherently carried out in the use of the tray of Freeman.

Claims 27, 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman (4,375,966) in view of Ziegler (6,540,516). Freeman discloses the claimed invention except for the specific radiopaque agents claimed by applicant. Ziegler teaches that bismuth subcarbonate is a suitable radiopaque agent (column 15, lines 59-61). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use bismuth subcarbonate in the impression tray and/or the impression material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman (4,375,966) in view of Coscina (3,878,610). The dental tray of Freeman does not include a first wall extending from the base. Coscina shows a dental tray 10 comprising a base 26 having a plurality of prongs, a first wall 28 extending from one side of the base, at least one tearable portion formed on one end of one prong, the

detachable portion being removable to shorten the prong length (see column 7, lines 36+). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the tray of Freeman with a wall extending from the base, as taught by Coscina, in order to contain the impression material.

Drawings

The drawings were received on June 19, 2006. These drawings are approved.

Response to Arguments

Applicant's arguments filed July 6, 2006 have been fully considered but they are not persuasive. Applicant argues that Freeman does not specifically disclose that the tray has an attenuation not exceeding a level 50% greater than the impression material. While this is true, it is held that it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the tray of Freeman to have an attenuation not exceeding a level 50% greater than the impression material, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Applicant's arguments with respect to claims 21-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cary E. O'Connor whose telephone number is 571-272-4715. The examiner can normally be reached on M-Th 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on 571-2724964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cary E. O'Connor
Primary Examiner
Art Unit 3732

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